

CLAIMS

1. A spotlight comprising a light source, a reflector and at least first and second lenses which are arranged in predetermined positions in a lamp body, a zoom adjustment mechanism for adjusting the distances between the lenses to adjust the size of the projected image, and a focus adjustment mechanism for adjusting the distance between the light source and each of the lenses to perform the focus adjustment of the transmitted light,
wherein the zoom adjustment mechanism comprises a drive shaft which is arranged parallel to an optical axis and is rotated forward or backward by rotating a zoom adjustment handle, a first lens holder on which the first lens is mounted and which is screw-coupled to a first screw section of the drive shaft to move forward or backward by the rotation of the drive shaft, and a second lens holder on which the second lens is mounted and which is screw-coupled to a second screw section of the drive shaft to move forward or backward by the rotation of the drive shaft,
the focus adjustment mechanism comprises a base which is supported so as to be slid forward and backward along the optical axis and a focus adjustment handle for sliding the base forward and backward, and
the drive shaft and the first and second lens holders

are mounted on a base, and the first and second screw
sections formed in the drive shaft are formed with
predetermined pitches, respectively, such that each of the
lenses is positioned at a predetermined position at which
5 the focusing adjusted by the focus adjustment mechanism does
not change even when the distances between the lenses are
changed by the zoom adjustment mechanism.

2. The spotlight according to claim 1,
10 wherein the first screw section is the forward transfer
screw formed in the drive shaft and the second screw section
is the backward transfer screw formed in the drive shaft,
in accordance with the forward rotation of the drive
shaft, the first lens holder moves forward according to the
15 pitch of the first screw section and the second lens holder
moves backward according to the pitch of the second screw
section, so that the distances between the lenses are
changed, and
in accordance with the backward rotation of the drive
20 shaft, the first lens holder moves backward according to the
pitch of the first screw section and the second lens holder
moves forward according to the pitch of the second screw
section, so that the distances between the lenses are
changed.

3. The spotlight according to claim 1,

wherein the first and second screw sections are the forward transfer screws formed in the drive shaft, in accordance with the forward rotation of the drive shaft, the first lens holder moves forward according to the pitch of the first screw section and the second lens holder moves forward according to the pitch of the second screw section, so that the distances between the lenses are changed, and

10 in accordance with the backward rotation of the drive shaft, the first lens holder moves backward according to the pitch of the first screw section and the second lens holder moves backward according to the pitch of the second screw section, so that the distances between the lenses are changed.

4. The spotlight according to any one of claims 1 to 3, further comprising a third lens fixedly mounted on the base.

20 5. The spotlight according to any one of claims 1 to 4, wherein the focus adjustment mechanism comprises a rack formed in the lamp body along the sliding direction of the base, a gear which integrally moves forward and backward with the base while being rotated in engagement with the 25 rack, and a focus adjustment handle which is arranged at the

outside of the lamp body and which moves forward and backward while being integrally rotated with the gear, and the gear is rotated by the rotation operation of the focus adjustment handle and the base is formed so as to move 5 forward and backward according to the pitch of the screw section formed in the rack.